

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/I B2004/052587

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04L27/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, WPI Data, IBM-TDB, INSPEC, COMPENDEX

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 344 493 A (* ROKE MANOR RESEARCH LIMITED) 7 June 2000 (2000-06-07) page 2, last paragraph - page 3, paragraph 2 page 5, paragraph 2 -----	1-21
A	WO 03/024042 A (REDLINE COMMUNICATIONS INC; SARCA, OCTAVIAN, V) 20 March 2003 (2003-03-20) page 3, line 1 - line 18 -----	1-21
A	US 6 618 452 B1 (HUBER JOHANNES ET AL) 9 September 2003 (2003-09-09) page 13, line 40 - page 15, line 49 -----	1-21

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

4 March 2005

Date of mailing of the international search report

24.06.2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Agudo Cortada, E

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/052587

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2344493	A	07-06-2000	NONE	
WO 03024042	A	20-03-2003	WO 03024042 A1 EP 1428366 A1	20-03-2003 16-06-2004
US 6618452	B1	09-09-2003	AU 4504199 A WO 9965180 A2 EP 1482699 A2 EP 1086559 A2 JP 2002518880 T TW 429719 B	30-12-1999 16-12-1999 01-12-2004 28-03-2001 25-06-2002 11-04-2001

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2004/052587

### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-21

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-21

frequency offset estimation employing the difference between the phase shift calculated for the midamble and for the downlink synchronization code

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2. claims: 22-25

frequency offset estimation employing a separate frequency offset estimate for each of the different antenna elements of a receiver

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